digital input of the controller, and when the controller senses an input changing to an active level, it may take an action corresponding to the button location being pressed. These are but a few examples of means for sensing which of a plurality of buttons are being pressed.

[0020] Referring now to **FIG. 3**, there is shown a side view of a touch screen display **300**, in accordance with the invention. The display assembly includes a first transparent layer **102** and a second transparent layer **110** separated by a separator layer **118**. The touch screen assembly is disposed on a display **203**. The display may be any variety of displays, such as, for example, liquid crystal, electroluminescent, and so on. An opening **120** in the separator layer **118** allows a user to press the transparent layers **102** and **118** into contact with each other, and the conductive traces disposed thereon. It should be noted that the thickness of the separator layer **118** may vary from that of the preferred embodiment, and that the thicker it becomes, the greater the distance required of the second transparent layer **110** to collapse and create the switched signal occurrence; although the outer layers **110** and **102** are typically constructed from a grade of PET, which is quite flexible, but therefore would result in a greater distance to activate the switch, hence the greater force would be required to cause such increased deflection.

[0021] Referring now to **FIGS. 4 and 5**, there is shown a portion of a display using a touch screen for a portable electronic device operated in a first configuration, and a portion of a display using a touch screen for a portable electronic device operated in a second configuration, respectively. In each case there is a display **203** with a touch screen assembly **100** disposed on the display. Since the outer layers of the assembly are transparent, as is the conductive material disposed on them, a user can see what is displayed on the display at the button location, corresponding to the opening **120** in the separator layer. If the separator layer is transparent, then all of the display can be seen. However it is contemplated that for some applications it may be desirable to have an opaque separator to mask the display other than at the button location or locations. This visual effect may also be achieved by placement of an opaque molded polymer housing, wherein the strategically positioned openings would correspond to the switches described. At the button locations on the display are displayed images or graphics, such as characters **402** and **502**, respectively. The portable electronic device displays information on the display **203**, and when the user presses on the image the user will press the touch screen causing the assembly layers of the invention to press together. The press is sensed by the control circuitry, as described hereinabove, at which time, the character displayed on the LCD or other display device is updated, or somehow changed to display alternate information.

[0022] In the preferred embodiment, the portable electronic device is a multi-configuration device. Examples of different configurations are shown in **FIGS. 6 and 7**, which show a portable electronic device utilizing a touch screen and configured in a first configuration, and a portable electronic device utilizing a touch screen and configured in a second configuration, respectively. In **FIG. 6** the device is shown in what can be referred to as a landscape mode, and may, for example, function as a two way pager. In **FIG. 7** the device is shown in what may be referred to as a portrait mode, and may, for example, operate as a cellular telephone. The device has two portions **602** and **604** that are joined by a hinge **606**. The device comprises a touch screen display **300** to display images at button locations. The device may also comprise a secondary display **210** for displaying other information to the user, such as text the user has entered into the device by pressing buttons on the touch screen display **300**.

[0023] When operated in the first configuration, the user views the touch screen display from a perspective along line **404**. As such, characters such as character **402** are displayed in a first orientation. When operated in the second configuration, the user views the touch screen display from a perspective along line **504**. As such, characters such as character **502** are displayed in a second orientation. Furthermore, characters **402** and **502** may belong to a first and second character set, respectively. The first and second character sets are displayed at differing orientations on the touch screen display **300**, and during different configurations of the device. When the user in not using the device, it may be placed in a closed configuration, as shown in **FIG. 8**. In which case the display or displays are preferably turned off so as to conserve battery life. If the user desires to, for example, send a text page, the user would open the device into the first configuration as shown in **FIG. 6**. If the user desires to use the device as a telephone, the user would open the device into the second configuration, as shown in **FIG. 7**.

[0024] Referring now to **FIG. 9**, there is shown a memory table **900** for selecting characters to be displayed on a display of a portable multi-configuration electronic device, in accordance with the invention. More precisely, the table allows the controller to determine which button location the user has pressed. For each configuration, there may be a separate table, so for the first configuration there may be a first table **902**, and for the second configuration there may be a second table **904**. Each table has as many entries (rows) as there are button locations. In the case where a button press is detected by sensing the voltage at a button location, which may have some variance, it is contemplated that each button location may be defined by a range of values. Thus, there is a start value **906** and an end value **908** for each button location. If the voltage sensed by the detection circuit falls into one of the ranges defined by these columns, then it indicates the corresponding button was pressed. The table may further include a column for indicating the image or character to be displayed at the button location, or a pointer to a memory location where an opcode or instruction is stored which the controller executes, for example. Optionally, if characters are stored in the column **910**, these characters may be fetched and displayed on a different portion of the display, or on a secondary display, to provide visual feedback to the user that the button press was detected. Alternatively, if, as suggested hereinabove, window comparators are used, the particular row to be accessed may be indicated by which of the window comparator circuits asserts an active level output, and the controller may simply fetch the appropriate character or pointer. It is also contemplated that rather than having multiple tables for each of the various configurations, there may simply be additional columns provided for each different configuration. Generally, there are numerous ways by which characters and instructions associated with each button location for each configuration can be mapped, and these are but a few examples.